

REMARKS

I. General

Claims 1-19 are pending in the application. Claims 1, 2, 4-10, 12-15 and 19 stand rejected under 35 U.S.C. § 102. Claims 3, 11 and 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant thanks the Examiner for the indication of allowability for claims 3, 11 and 16-18. Applicant hereby traverses the outstanding rejections, and respectfully requests reconsideration and withdrawal in light of the remarks contained herein.

II. Amendment to the Specification

The title has been amended to correct an obvious typographical error. No new matter has been entered by this amendment.

III. Amendments to the Claims

Claims 1 and 15 have been amended to clarify the invention. Support for these amendments can be found in the originally-filed application, at least in paragraphs [0015] to [0016] and Figure 1. No new matter has been entered by these amendments.

IV. Rejections under 35 U.S.C. § 102

Claims 1, 2, 4-10, 12-15 and 19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,698,949 to Lien et al. ("Lien").

It is well settled that to anticipate a claim, the reference must teach every element of the claim. M.P.E.P. § 2131. Moreover, in order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, "[t]he elements must be arranged as required by the claim." M.P.E.P. § 2131, citing *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). Furthermore, in order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim." M.P.E.P. § 2131, citing *Richardson v. Suzuki Motor Co.*, 9

U.S.P.Q.2d 1913 (Fed. Cir. 1989). Applicant respectfully asserts that the rejections do not satisfy these requirements.

A. Independent Claims 1, 9 and 15

Independent claim 1 now recites “a cathode having a longitudinal axis and operable to generate an electron beam on the longitudinal axis” Lien does not disclose at least this aspect of claim 1. That is, Lien does not disclose a cathode operable to generate an electron beam on its longitudinal axis.

The Office Action identifies cathode 50 in Figure 3 of Lien as meeting the limitations of the cathode in claim 1. Applicant notes that Lien’s cathode 50 is an annular ring, and generates an “approximately annular cylindrical electron beam” that is at a distance from the axis. Lien, column 6, lines 50-55. Therefore, Lien does not disclose a cathode having a longitudinal axis and operable to generate an electron beam on the longitudinal axis, as required by claim 1. Accordingly, Applicant asserts that claim 1 is patentable for, at least, the reason set forth above, and requests withdrawal of the U.S.C. § 102(b) rejection of claim 1.

Independent claim 9 recites “a coaxial line coupled to the cavity having a center conductor that [is] operable to produce an electron beam” Lien does not disclose at least this aspect of claim 9. That is, Lien does not disclose that the center conductor of a coaxial line produces an electron beam.

The Office Action identifies cathode 50 in Figure 3 of Lien as the element of Lien that produces an electron beam, and coaxial feed 56 in Figure 3 of Lien as the coaxial line of claim 9. Applicant notes that Lien’s cathode 50 is not the center conductor of coaxial feed 56. Therefore, Lien does not disclose a coaxial line coupled to a cavity having a center conductor operable to produce an electron beam, as required by claim 9. Accordingly, Applicant asserts that claim 9 is patentable for, at least, the reason set forth above, and requests withdrawal of the U.S.C. § 102(b) rejection of claim 9.

Independent claim 15 now recites “providing a cathode within the cavity operable to generate an electron beam on a longitudinal axis” Lien does not disclose at least this aspect of claim 15. That is, Lien does not disclose a cathode operable to generate an electron beam on the longitudinal axis.

The Office Action does not identify an element of Lien as meeting the limitations for the cathode of claim 15. However, as shown above for claim 1, Lien does not disclose a cathode operable to generate an electron beam on a longitudinal axis. Accordingly, Applicant asserts that claim 15 is patentable for, at least, the reason set forth above, and requests withdrawal of the U.S.C. § 102(b) rejection of claim 15.

B. Dependent Claims 2, 4-8, 10, 12-14 and 19

Claims 2, 4-8, 10, 12-14 and 19 depend from a respective one of base claims 1, 9 and 15, and thus inherit all the limitations of their respective base claims. As shown above, claims 1, 9 and 15 set forth features and limitations not disclosed by Lien. Applicant asserts that dependent claims 2, 4-8, 10, 12-14 and 19 are patentable for, at least, the reasons set forth above with respect to base claims 1, 9 and 15. Accordingly, Applicant requests the Examiner withdraw the U.S.C. § 102(b) rejections of dependent claims 2, 4-8, 10, 12-14 and 19. Moreover, these claims set forth additional features and limitations not present in the cited art.

For example, claim 5 recites “the energy input comprises a coaxial line having a center conductor; and the cathode comprises an extension of the center conductor of the coaxial cable.” Lien does not disclose that a cathode is an extension of a center conductor of a coaxial cable. Rather, Lien discloses that the cathode is an annular ring. Lien, column 6, lines 50-55. The Office Action points to coaxial feed 56 as the coaxial line of claim 5, cathode 50 as the cathode of claim 5, and also references Figures 3-7 of Lien. Applicant notes that Figure 3 of Lien clearly shows cathode 50 as distinctly separate and removed from coaxial feed 56, and not the center conductor of coaxial feed 56. Applicant further notes that Figure 7 of Lien is not a figure of rotation, but rather is a cross-section cut, showing of a portion of Figure 6. Therefore, not only do the cited elements of Lien not meet the requirements of claim 5, but no figure in Lien discloses any cathode as a center conductor of a coaxial line.

Claim 6 recites “the cathode is operable to be selectively positioned in the cavity so that changing the position of the cathode in the cavity changes the particular frequency at which the cavity resonates.” The Office Action cites Figures 3-7 of Lien. Applicant asserts

that none of Figures 3-7 discloses that changing the position of the cathode in the cavity changes the particular frequency at which the cavity resonates.

Claim 7 recites “the cathode is selectively positioned by a connector coupling the coaxial cable to the cavity.” As shown above for claim 5, Lien does not disclose that a cathode is an extension of a center conductor of a coaxial cable. Therefore any connector coupling the cited coaxial feed 56 to the cavity would not selectively position Lien’s cathode 50.

Claims 8 and 14 recite “the cavity comprises an endwall operable to be selectively deformed to change the particular frequency at which the cavity resonates.” The Office Action cites Figures 3-7 of Lien. Applicant asserts that none of Figures 3-7 discloses that an endwall is operable to be selectively deformed, or that such deforming would change the particular frequency at which the cavity resonates.

Claim 12 recites “the coaxial line is operable to be selectively positioned to change the particular frequency at which the cavity resonates.” The Office Action cites Figures 3-7 of Lien. Applicant asserts that none of Figures 3-7 discloses that the coaxial line is operable to be selectively positioned, or that such selective positioning would change the particular frequency at which the cavity resonates.

Claim 12 recites “the coaxial line further comprises a threaded connector coupling the coaxial line to the cavity; and the coaxial line is positioned by adjusting the threaded connector.” The Office Action cites Figures 3-7 of Lien. Applicant asserts that none of Figures 3-7 discloses a threaded connector coupling a coaxial line to the cavity, or that a threaded connector could be adjusted to position a coaxial line.

Claim 19 recites “the cathode comprises an extension of a center conductor of the coaxial cable.” As shown above for claim 5, Lien does not disclose that a cathode is an extension of a center conductor of a coaxial cable.

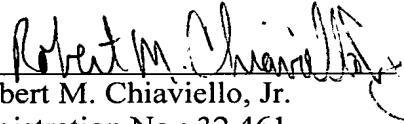
V. Conclusion

In view of the above, Applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 06-2380, under Order No. 63951/P013US/10211125 from which the undersigned is authorized to draw.

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Respectfully submitted,

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